

INSTALLATION INSTRUCTIONS

SUBJECT: FLEECE PERFORMANCE COOLANT BYPASS™ FOR 2003-2005 RAM WITH 5.9L 24V CUMMINS

FPE-2018-03
Revised August, 2025
Page 1 of 11

FITMENT: 2003–2005 Dodge Ram 2500/3500 with 5.9L 24V Cummins Automatic Transmission Only

KIT P/N: [FPE-CLNTBYP-S-CUMMINS-0305](#) and [FPE-CLNTBYP-S-CUMMINS-0305-SS](#)

ESTIMATED INSTALLATION TIME: 1.5 - 2 Hours

TOOLS REQUIRED: 18mm ratcheting wrench or socket, 10mm socket, 8mm socket, 6mm Allen, 1" wrench, hammer, 5-gallon clean drain pan, 36" pry bar, Scotch-Brite™ pad (included in kit).

KIT CONTENTS:

Item	Description	Qty
1	Coolant bypass line (stainless steel option shown from -SS kit)	1
2	Coolant bypass thermostat housing and O-ring	1
3	Thermostat riser block and O-ring	1
4	M8 x 30mm flange head bolt	1
5	M8 x 1.25, 20mm socket head cap screw	2
6	M6 x 1.00 x 60mm flange head bolt	3
7	M12 x 1.75, 40mm flange head bolt	2
8	16mm Allen head coolant plug with O-ring	1
9	Heater tube & heater hose	1
10	Heat exchanger rubber caps	2
11	Coolant bypass line riser brackets	2
12	Hose Clamp SAE 12	1
13	Hose Clamp SAE 10	1
14	Vinyl coated P-clamp 7/8"	1
15	Scotch-Brite™ pad (not shown)	1
16	M8 x25 bolt and washer	1
17	3/4" aluminum standoff (not shown)	1



IMPORTANT NOTICES:

For California customers: An E.O. identification label is required for Smog Check inspection. The E.O. identification label included with the kit MUST be placed in the engine compartment so that smog check technicians can verify the E.O. number.

WARNINGS:

- User assumes sole responsibility for the safe & proper use of the vehicle at all times.
- The purchaser and end user releases, indemnifies, discharges, and holds harmless Fleece Performance Engineering, Inc. from any and all claims, damages, causes of action, injuries, or expenses resulting from or relating to the use or installation of this product that is in violation of the terms and conditions on this page, the product disclaimer, and/or the product installation instructions. Fleece Performance Engineering, Inc. will not be liable for any direct, indirect, consequential, exemplary, punitive, statutory, or incidental damages or fines cause by the use or installation of this product.

PROCEDURE:

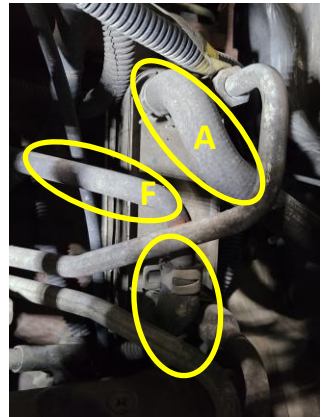
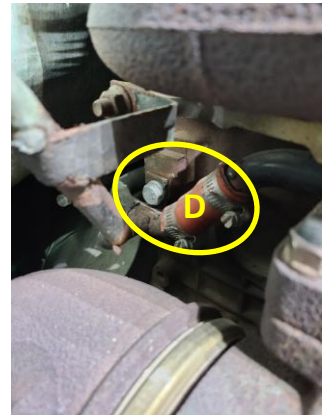
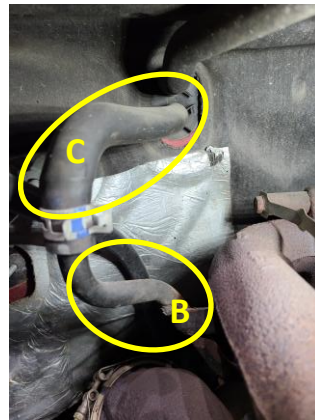
STEP 1: Disconnect the vehicle batteries.

STEP 2: Locate the engine coolant drain, located under the driver's side of the radiator. Drain the coolant system into a clean drain pan.

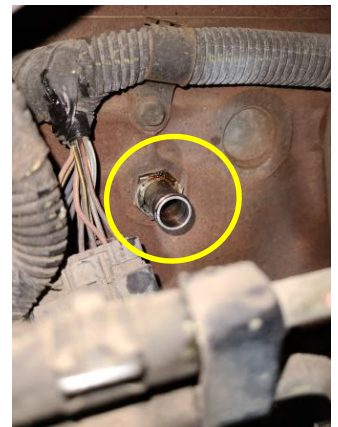
STEP 3: Locate the coolant tube (section A) that runs along the back of the engine block connecting the transmission heat exchanger on the driver's side and the heater core/coolant standpipe (section B) on the passenger side.

Remove this heater tube and p-clip along with the hose sections attached at either end of the tube that connect to the heater core (section C), coolant pipe (section D and E), and transmission heat exchanger. Items to be removed are circled in the images at right.

NOTE: Reference the graphic on page 3 for locations and descriptions of parts removed.



STEP 4: Remove the hose from the transmission heat exchanger that runs to the coolant port on the driver's side of the engine block (section F). Remove the threaded barb fitting from the engine block.



OE COOLANT ROUTINGS AND PARTS TO BE REMOVED

Section A: Coolant tube running behind engine block from transmission heat exchanger to coolant standpipe.

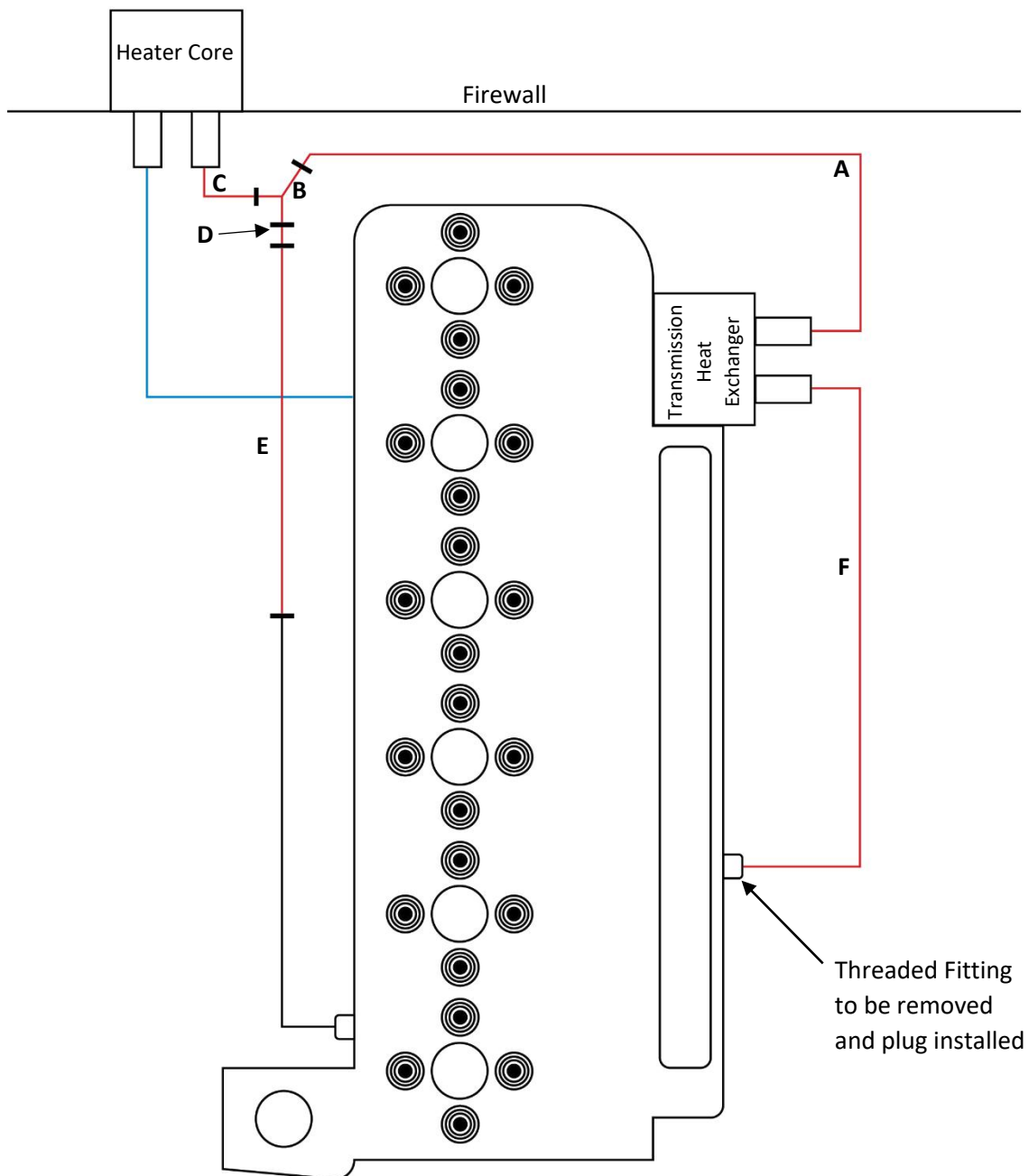
Section B: Coolant standpipe on rear, passenger-side of engine block. Connects hoses from transmission heat exchanger, heater core, and coolant pipe.

Section C: Coolant hose connecting coolant standpipe to heater core.

Section D: Short hose connecting coolant pipe and coolant standpipe.

Section E: Coolant pipe running along passenger side of engine block.

Section F: Coolant hose running from bottom port of heater core to port on driver's side of the engine block.



STEP 5: Install the rubber caps onto the open ports on the transmission heat exchanger.

NOTE: The hose running to the top port of the heat exchanger is removed from the vehicle and replaced with the coolant pipe and hose that are routed directly to the heater core.



STEP 6: Install the 16mm coolant plug port into the engine block where the barb fitting was removed.



STEP 7: Install the new heater hose and hose clamps and coolant pipe to the heater core connection on the firewall. Use the P-clamp, M8x30mm bolt and $\frac{3}{4}$ " aluminum spacer, to offset the new heater tube from the engine block.



STEP 8: Using an 8mm Socket, remove the three bolts anchoring the stock thermostat housing. It is not necessary to remove or disconnect the thermostat housing from the upper radiator hose. Move it to the side, out of the way of the exposed thermostat, to allow for access.



STEP 9: Remove the stock thermostat. Inspect it for wear and proper function. With a Scotch-Brite™ pad and degreasing solution, thoroughly clean the sealing surface of the stock thermostat and thermostat housing. Be sure to remove any foreign debris, and reinstall the OE thermostat.



STEP 10: Position the thermostat housing riser block on top of thermostat. The O-ring should be facing upward with the threaded fitting facing towards the rear of the engine.



STEP 11: Place the stock thermostat housing over the thermostat riser block. Using the supplied M6 flange head bolts, tighten the bolts to 89 in-lbs.

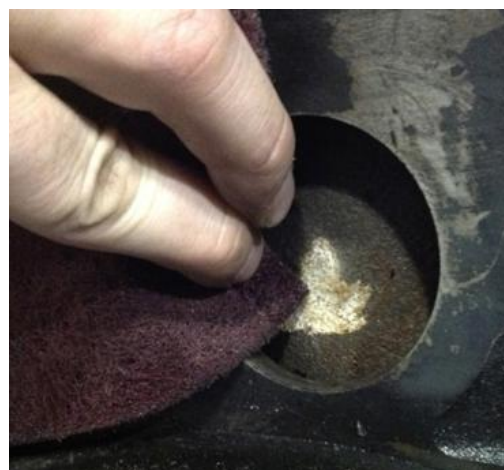


STEP 12: Locate the large 58mm (2 ¼") freeze plug at the rear of the engine block. From underneath the truck, using a 36" pry bar and hammer, drive the outer edge of the freeze plug in to rotate it in its bore. Remove the freeze plug from the block.

NOTE: Do not hit the plug in the center.

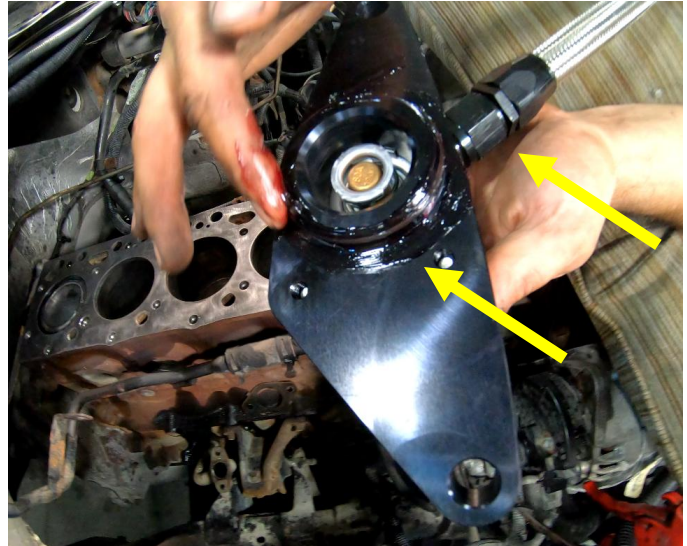


STEP 13: With the freeze plug removed, use a Scotch-Brite™ pad and a degreasing solution to **thoroughly** clean the block surface area from the head down to the rear cover, as well as the bore where the freeze plug was previously installed. Be sure to remove all dirt and foreign debris to allow the coolant bypass thermostat housing to fully seat.

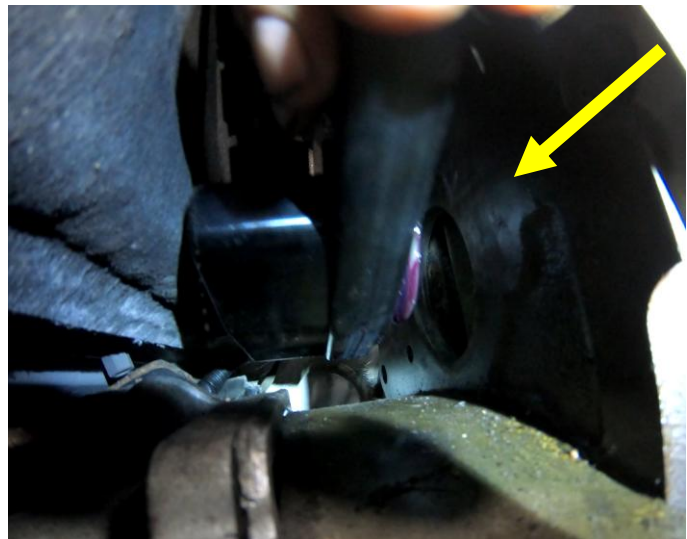


STEP 14: Using a 1" wrench, thread the coolant bypass hose onto the fitting on the coolant bypass thermostat housing. Tighten the fitting.

STEP 15: With assembly grease or light oil, thoroughly lubricate the sealing O-ring on the coolant bypass thermostat housing and press it into place on the back of the engine block.



STEP 16: Slide the thermostat housing between the firewall and the back of the engine block. Align the thermostat housing with the original freeze plug hole location and press the housing against the engine to seat the housing. The coolant bypass hose should be oriented towards the passenger side of the vehicle and over the exhaust manifold.



STEP 17: Ensure that the coolant bypass thermostat housing is firmly seated onto the back of the engine block and fasten it securely into place using the supplied M12 flange head bolts using an 18mm socket.



STEP 18: With the coolant line routed above the exhaust manifold, thread the available end onto the AN style fitting of the installed thermostat riser block.



STEP 19: Utilizing the coolant bypass line riser brackets and M8 socket head cap screws in your kit; position the clamps over the bypass coolant line and fasten them to the cylinder head in the available tapped holes between cylinder numbers 2 & 3 as well as between cylinder numbers 4 & 5.

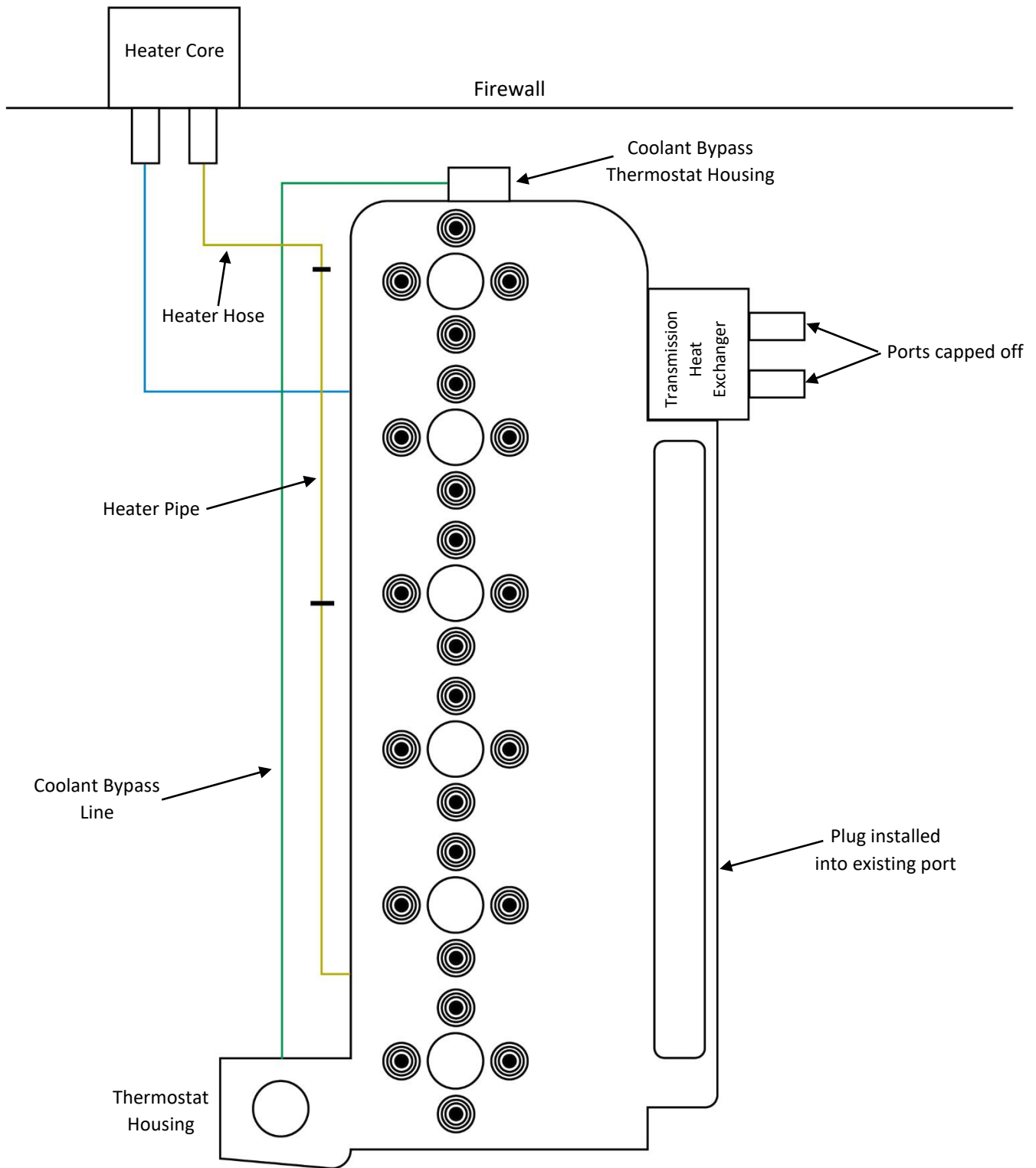
NOTE: Ensure the coolant line does not contact the exhaust manifold.



STEP 20: Ensure that the coolant drain plug has been reinstalled in the radiator and proceed to re-fill the coolant system. Re-use or replace coolant as necessary to properly fill the system with clean fluid.



COOLANT ROUTINGS WITH FLEECE PERFORMANCE COOLANT BYPASS INSTALLED



STEP 21: Re-connect the vehicle batteries.

STEP 22: Start the truck and allow the engine to idle. Inspect all fittings and split-lines for possible leaks. If no leaks are observed, bring the engine to a normal operating temperature, and confirm that no leak is present. Repair any observed leaks.

INSTALLED PRODUCT IMAGES:

